Claims

5   1. An application unit (1) that comprises

       at least one application adapted for exchanging data traf-

fic with at least one protocol stack, said data traffic being

adapted for wireless communication using a mobile communica-

tion network;

10   wherein said at least one protocol stack is adapted for

processing said data traffic from said at least one applica-

tion and transferring the processed data traffic to at least

one physical interface (3);

       characterized in that

15   wherein said at least one protocol stack is adapted for re-

ceiving at least one IP (internet protocol) packet containing

flow control information;

       wherein said IP packets are sent from a modem unit (2) re-

sponsible for setting up a wireless connection with a mobile

20 communication network.

       2. The application unit according to the preceding claim,

       characterized in that

       said application unit (1) is adapted for transmitting to

25 said modem unit (2) at least one of:

       - QoS profiles of said applications, or

       - a request sent to the modem unit to trigger the modem

         unit to send flow control information to the application

         unit.

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       3. The application unit according to one of the preceding

claims,

       characterized by

an application unit collector for extracting said IP pack-
ets containing flow control information out of an IP packet
flow.

5   4. The application unit according to the preceding claim,
       characterized in that

       the application unit collector builds at least one IP
packet which is used to request flow control information from
the modem.

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       5. The application unit according to claim 3,
       characterized in that

       when requesting flow control information from the modem,
the application unit collector uses in an authentication pro-
15   tocol as username a desired IP address.

       6. The application unit according to one of the preceding
claims,
       characterized by
20   a first QoS packet processor module (65) in the protocol
stack of the application unit adapted for at least one of
monitoring and modifying the data traffic.

       7. The application unit according to one of the preceding
25   claims,
       characterized by
       a media sense unit responsible for detecting
       a) which modem is connected to the application unit, and/or
       b) whether this modem is usable at the moment; and/or
30   c) which parameters are supported by the modem.

       8. The application unit according to one of the preceding
claims,
       characterized by

a decider module for controlling the data flow for optimum quality of service based on the received flow control information,

wherein the decider uses a look-up table for deriving the
5   decisions;

wherein the lookup table has a higher layer protocol stack state and the flow control information as input and an action to be taken for the higher layer protocol stack of the application unit as output.
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9. A modem unit (2) for mobile communication comprising:

a broadcast facility adapted for setting up a wireless connection for mobile communication;

at least one transmission protocol stack (8) adapted for
15   transferring data traffic between said broadcast facility and at least one physical interface (3);

a sub-collector for collecting flow control information about the status of the wireless connection from said transmission protocol stack;
20   a unit for creating at least one IP packet containing the flow control information; and

a sender for sending said IP packets from the modem unit to an application unit connected to the modem unit.

25   10. The modem unit of claim 18 or any one of the preceding claims referring to a modem unit,

characterized by

a second QoS packet processor module (75) adapted for at least one of monitoring and modifying the data traffic between
30   said at least one physical interface (3) and the transmission protocol stack (8).

11. The modem unit of claim 18 or any one of the preceding claims referring to a modem unit,
35   **characterized by**

12. A user equipment comprising at least one application unit (1) according to any of claims 1 to 8 that is connected, via said at least one physical interface (3), with a modem
5   unit (2) according to any of claims 9 to 11.

13. The user equipment according to the preceding claim, **characterized in that**
said modem unit (2) and at least one of the application
10   units (1) are implemented as one embedded mobile device, preferably as a smartphone.

14. A method for optimizing data flow in a distributed user equipment for mobile communication,
15   a) said user equipment comprising at least one application unit and a modem unit (2) connected to the application unit;
          b) with at least one application being installed on at least one of the application units (1);
          c) wherein the modem unit is adapted for setting up a wire-
20   less connection for mobile communication;
          said method comprising steps of:
          d) within the modem collecting flow control information about the status of the wireless connection;
          e) within the modem creating at least one IP packet con-
25   taining the flow control information;
          f) sending said IP packets from the modem unit to the application unit connected to the modem unit;
          g) controlling the data flow in the application unit for optimum quality of service based on the received flow control
30   information.

15. Computer program product, comprising computer program code means,
          wherein the program code means can be stored or are stored
35   on a storage medium;   and

wherein the program code means are adapted to perform the method of one of the preceding method claim, if the program code means are executed on a mobile device, a processing system, or a digital signal processor.

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16. A computer loadable data structure, that is adapted to perform the method according to one of the preceding method claims while the data structure is being executed on a mobile device, a processing system, or a digital signal processor.

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17. A computer program, wherein the computer program is adapted to perform the method according to one of the preceding method claims while the computer program is being executed on a mobile device, a processing system, or a digital signal

15   processor.

18. A computer program comprising program means for performing the method according to one of the preceding method claims while the computer program is being executed on a mobile

20   device, a processing system, or a digital signal processor.

19. A computer program comprising program means according to the preceding claim, wherein the program means are stored

25   on a storage medium readable to a computer.

20. A storage medium, wherein a data structure is stored on the storage medium and wherein the data structure is adapted to perform the method according to one of the preceding method

30   claims after having been loaded at least partially into a main and/or working storage of a mobile device, a processing system, or a digital signal processor.